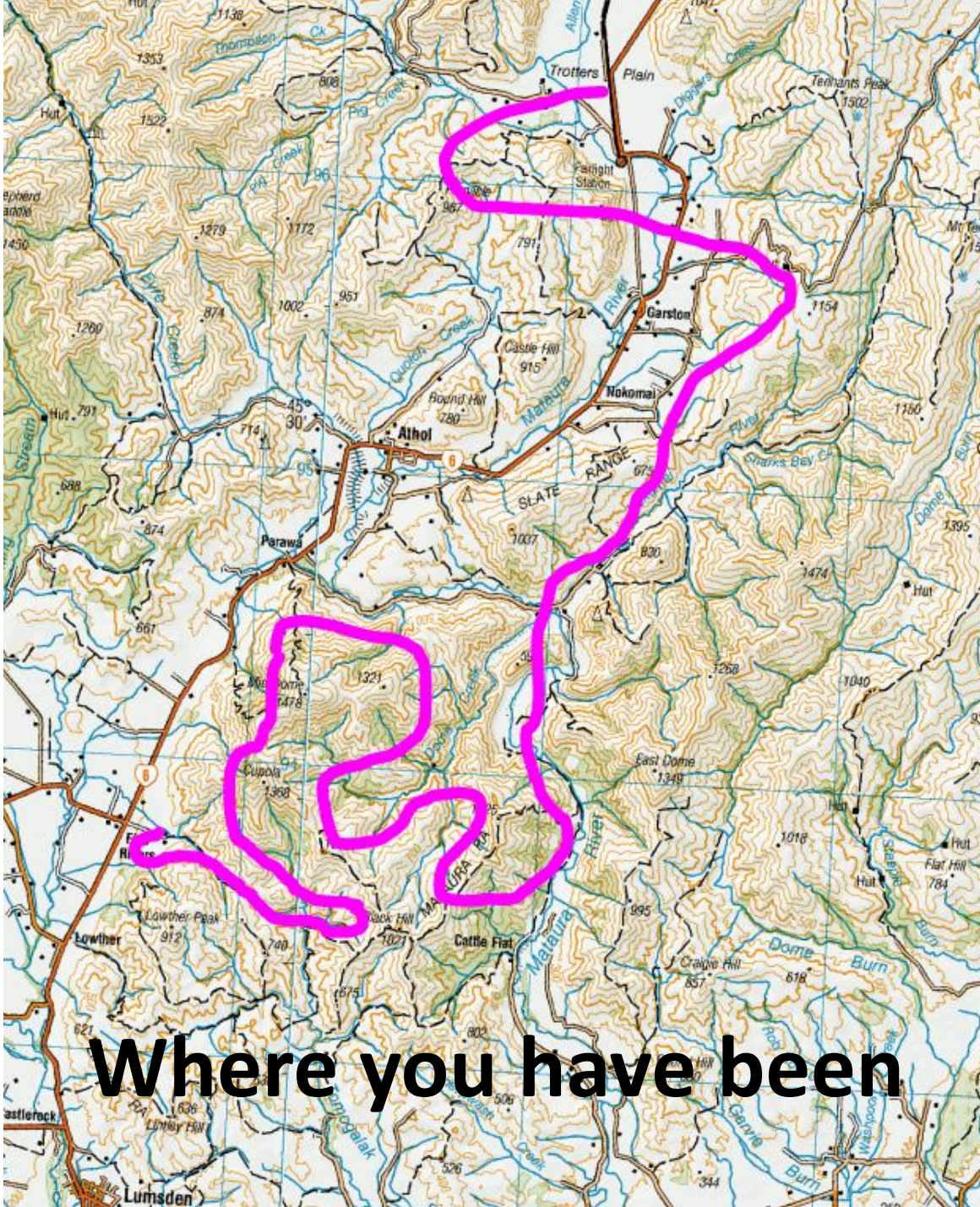


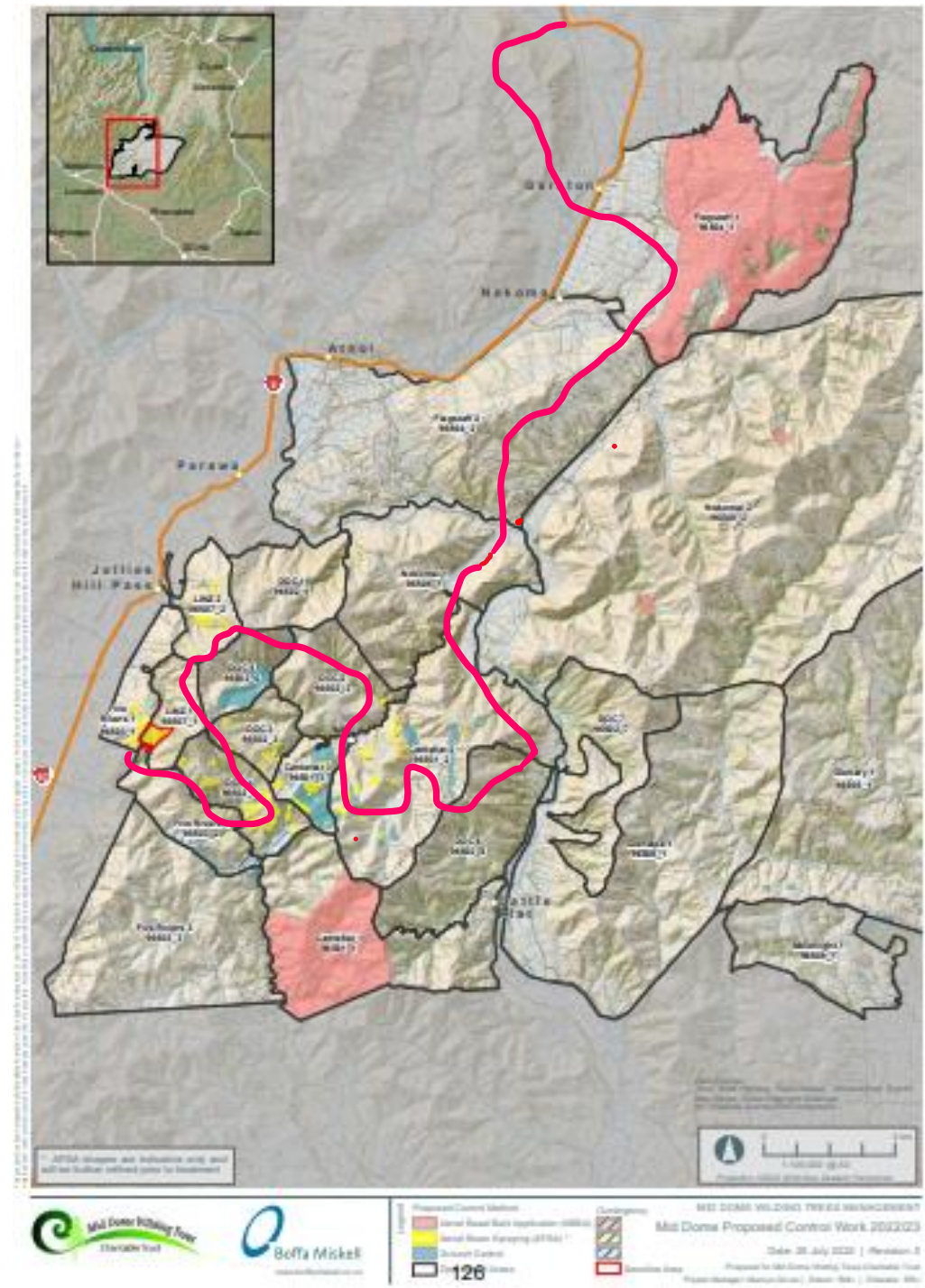


Aerial Inspection Tour Presentation

24 May 2023



Where you have been



What caused the wilding pine problem at Mid Dome?



Between the 1950s and 1980s Crown agencies (MWD, NZFS) and local authorities planted *P contorta* (contorta pine) and *P mugo* (mountain pine).

1962

Over 250 hectares to control erosion

Richard

2003





1963



Southland Catchment Board Plantings



Pinus contorta and P mugo plantings



Last plantings (P. mugo 1982/83). Wilding spread to east cleared 1994/95



Mid Dome Front Faces-Red Duster

Richard

Wilding Tree Spread From 1998- 2015 Downwind of Mid Dome into the Upper Tomogalak Catchment



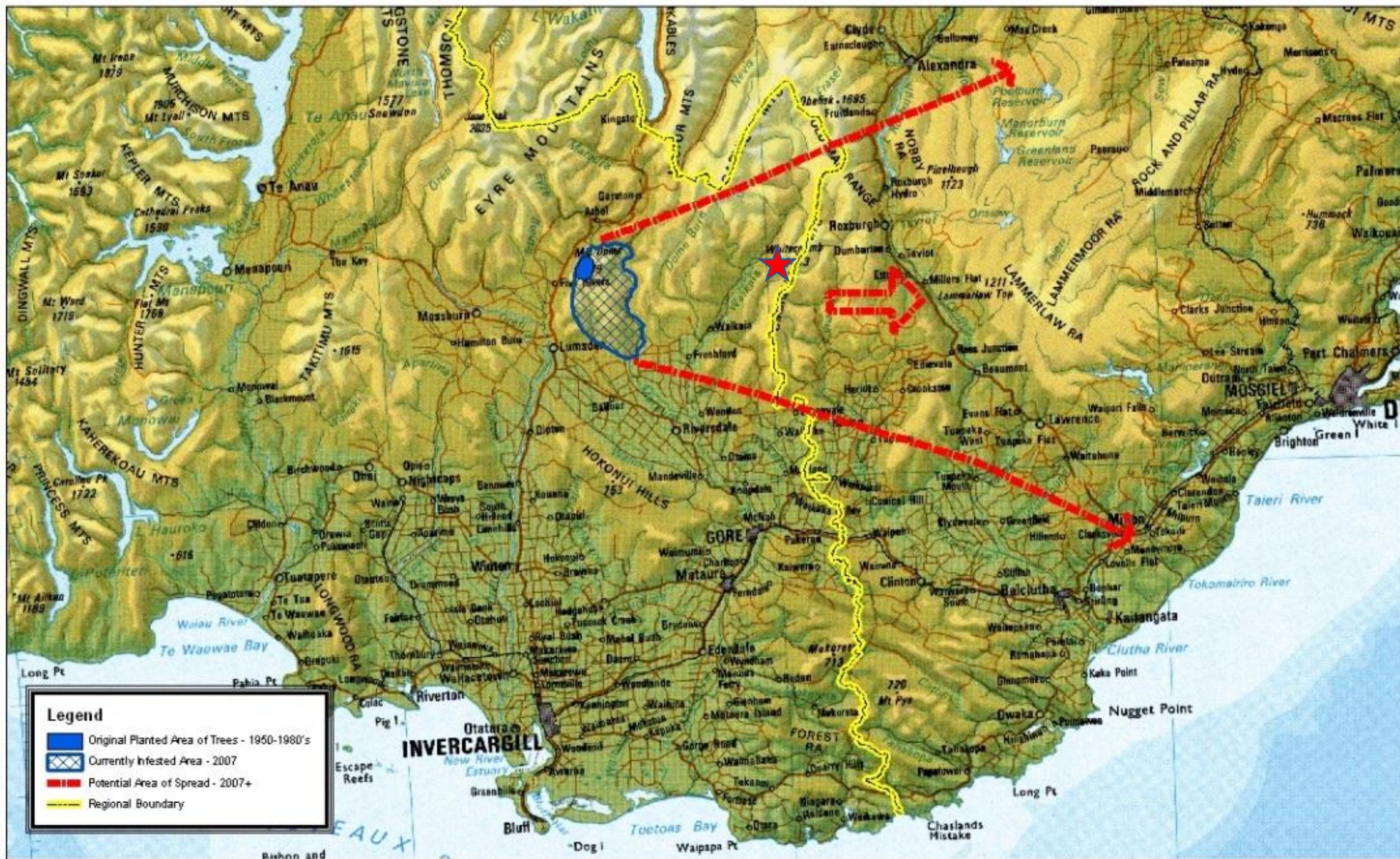
Nov
1998



Dec
2004



May 2015





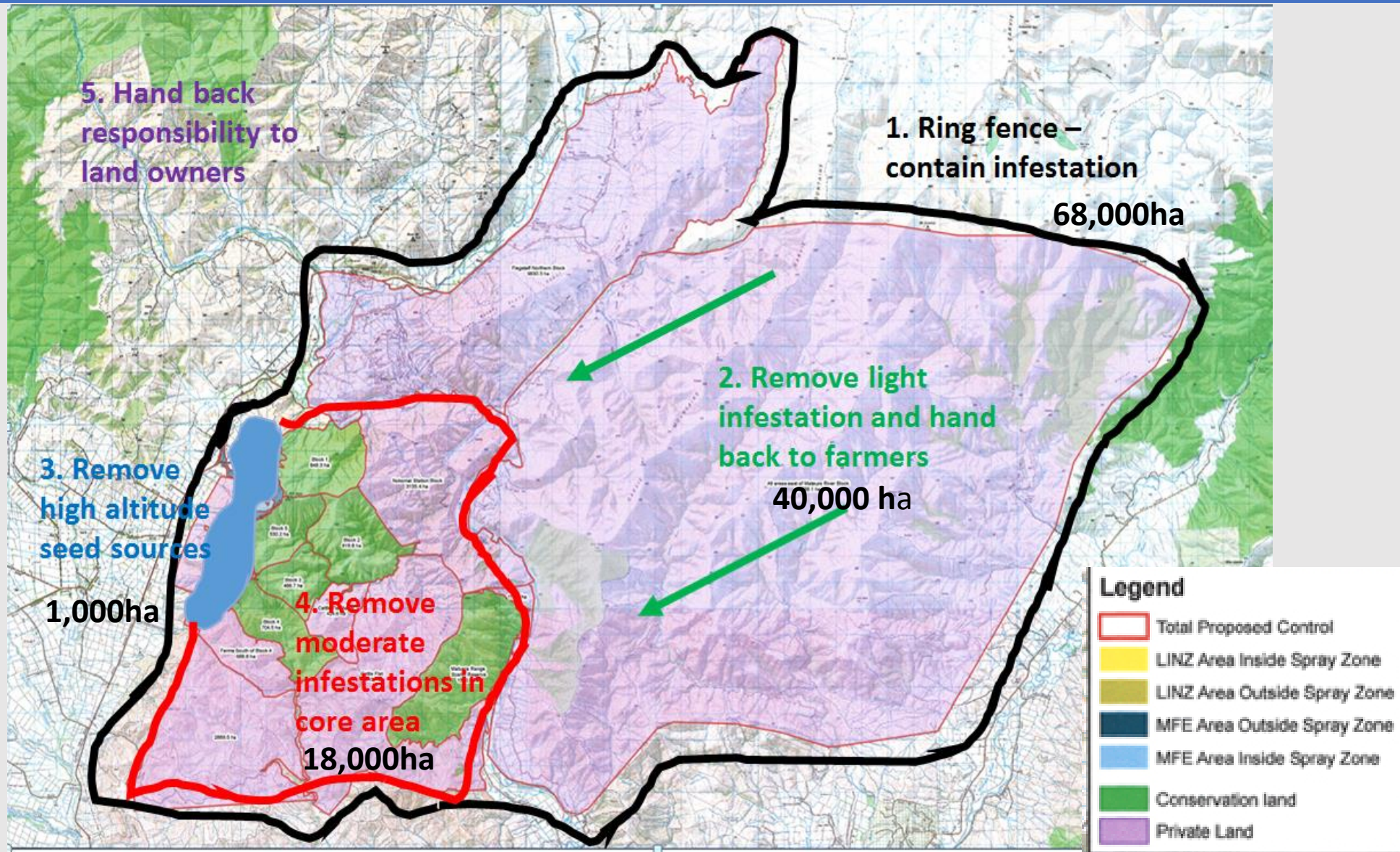
Mid Dome Control History

- Wilding control has been undertaken at Mid Dome since the mid 90s >30 years
- Early control work - all underfunded



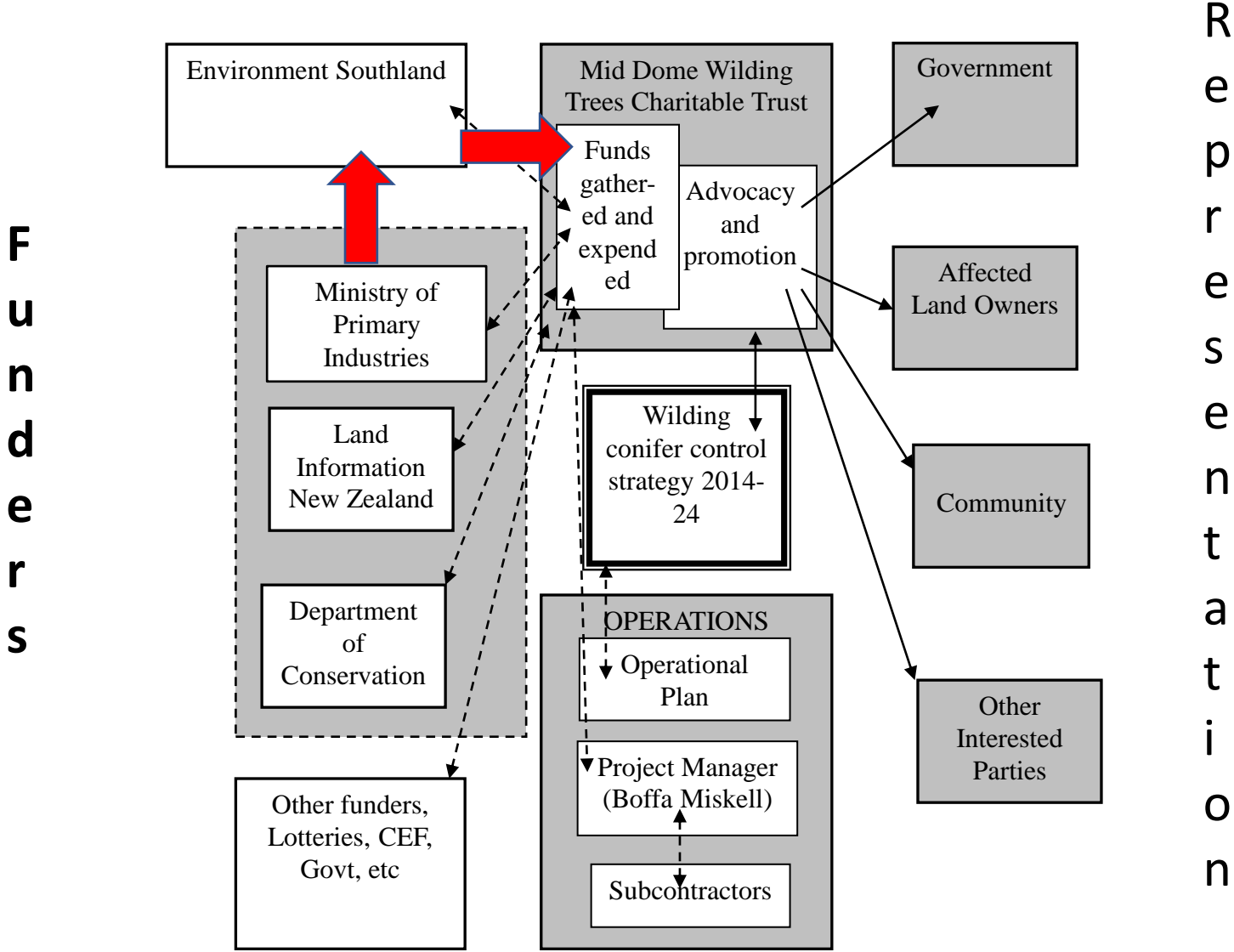
- 2006 Mid Dome Trust formed
- 2010 Aerial spraying became a viable tool
- 2017 NWCCP funding starts
- Expenditure to 2023 = \$20M





What has been achieved at Mid Dome

Mid Dome Wilding Tree Programme - Structure and Partner Relationships



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What success looks like?







May 2015

Marcus



Nov 2022

Mid-Dome Wilding Conifer Management Strategy 2023 – 2033

Reclaiming Mid Dome – We Are Over Halfway There!



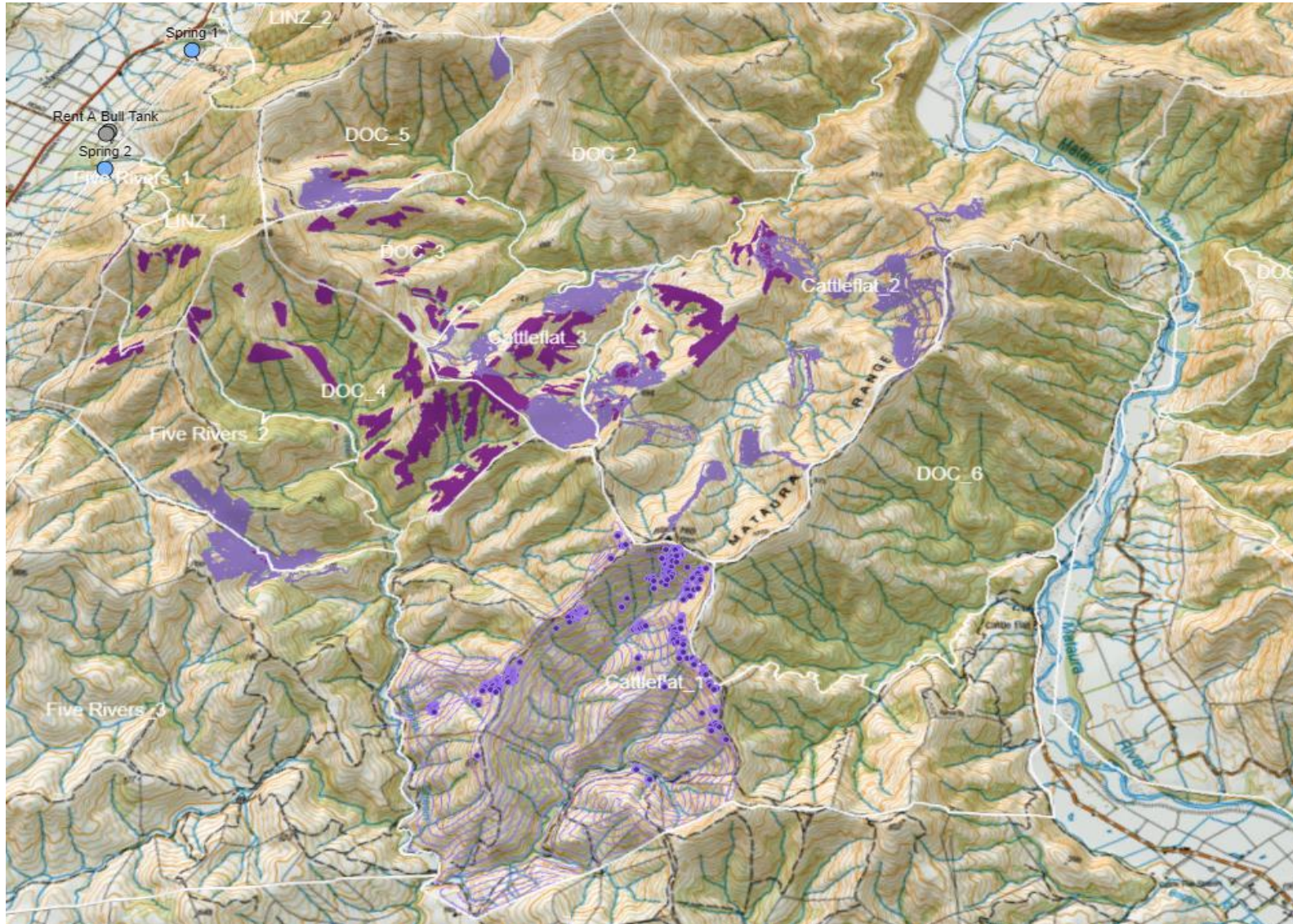
We are over halfway there!

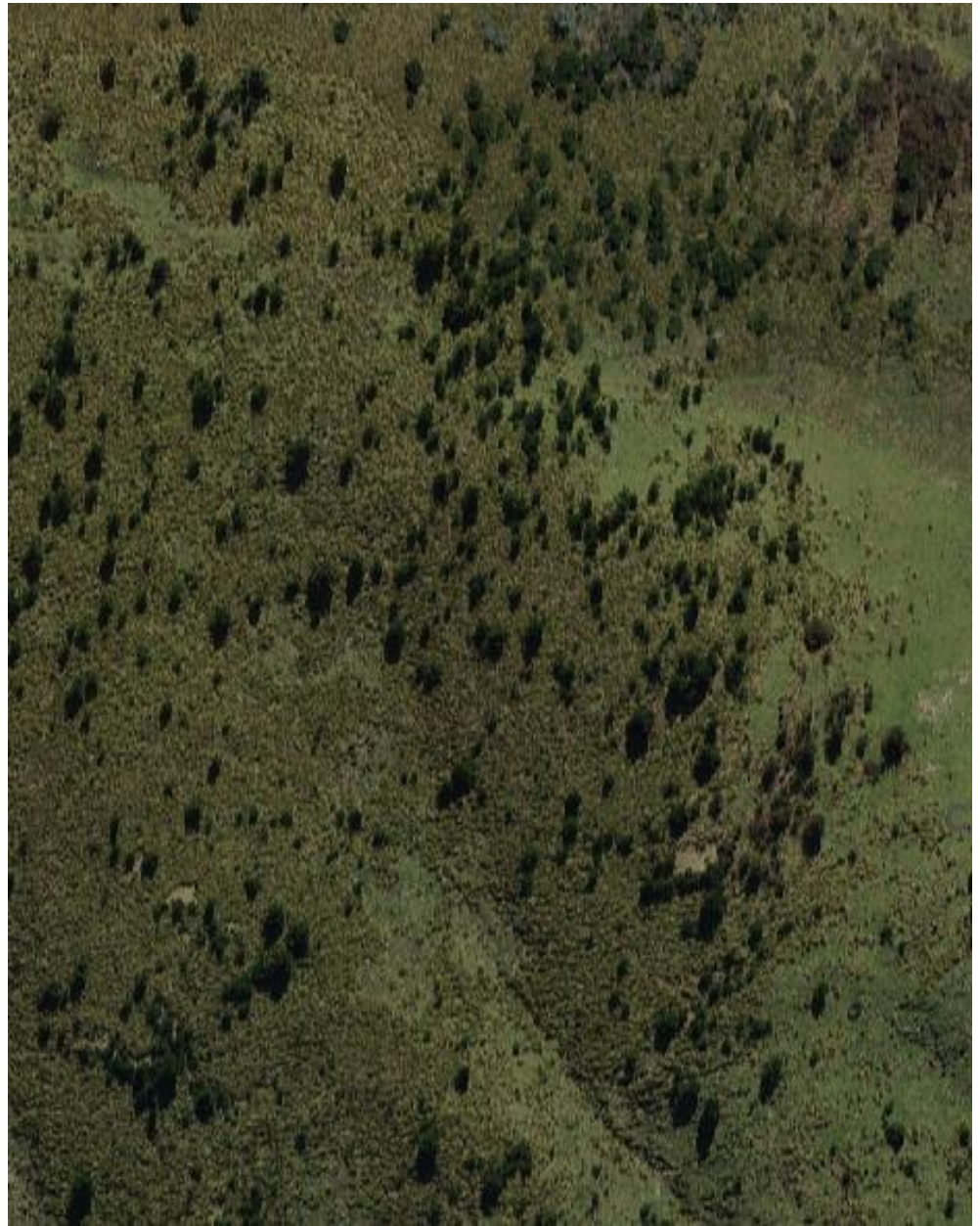
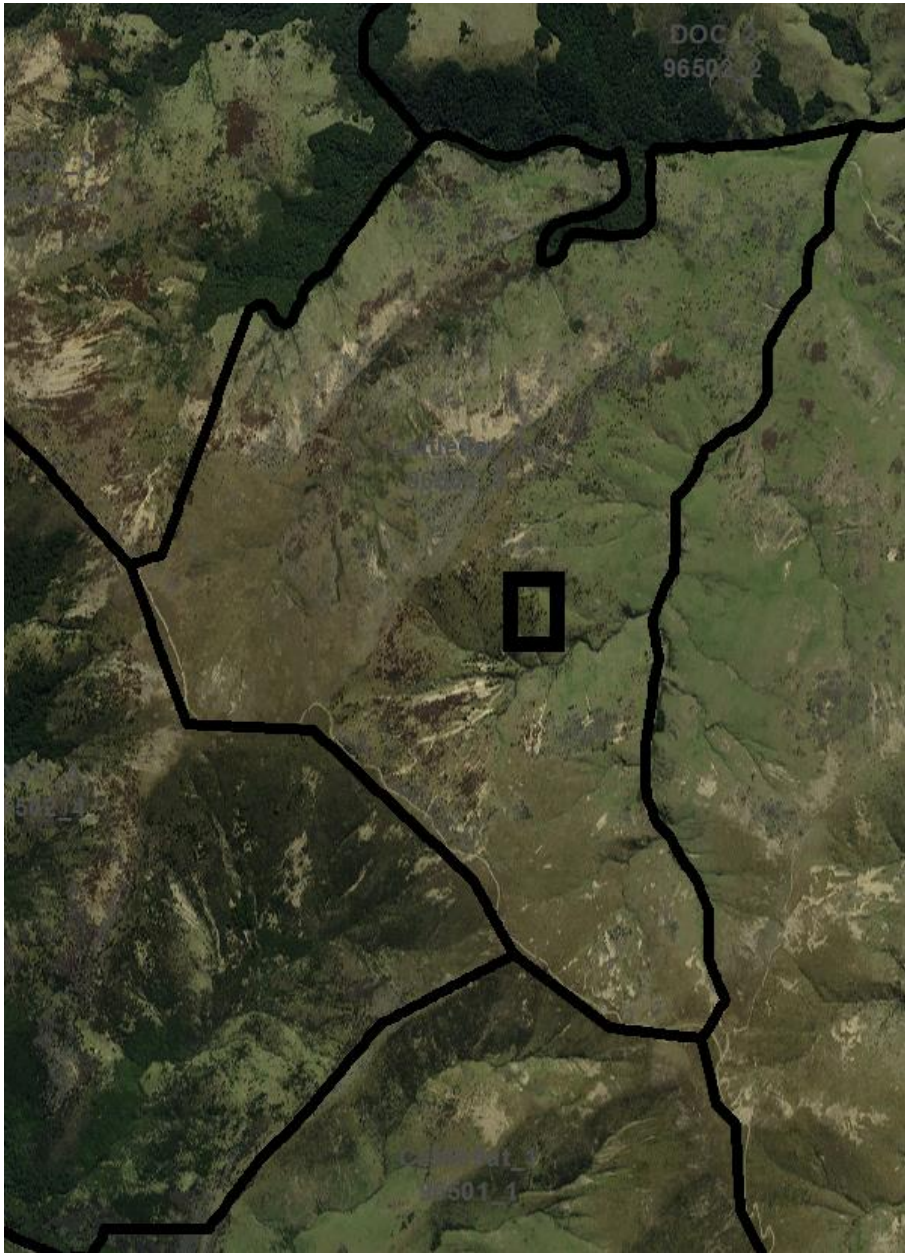


What is needed to complete wilding control at Mid Dome ?

- Aerially spray the last of closed canopy infestations.
 - Almost complete.
 - Target missed trees.
- Undertake the second and third 3-5 year maintenance control cycles to prevent trees from coning.
 - In progress
- Prepare the respective land owners/managers to take back responsibility for future management of any residual wilding risk under the RPMP supervised by ES.
 - Improve regulatory provisions.
- Address risks from external seed sources – esp. Douglas fir

Collection of Field Data





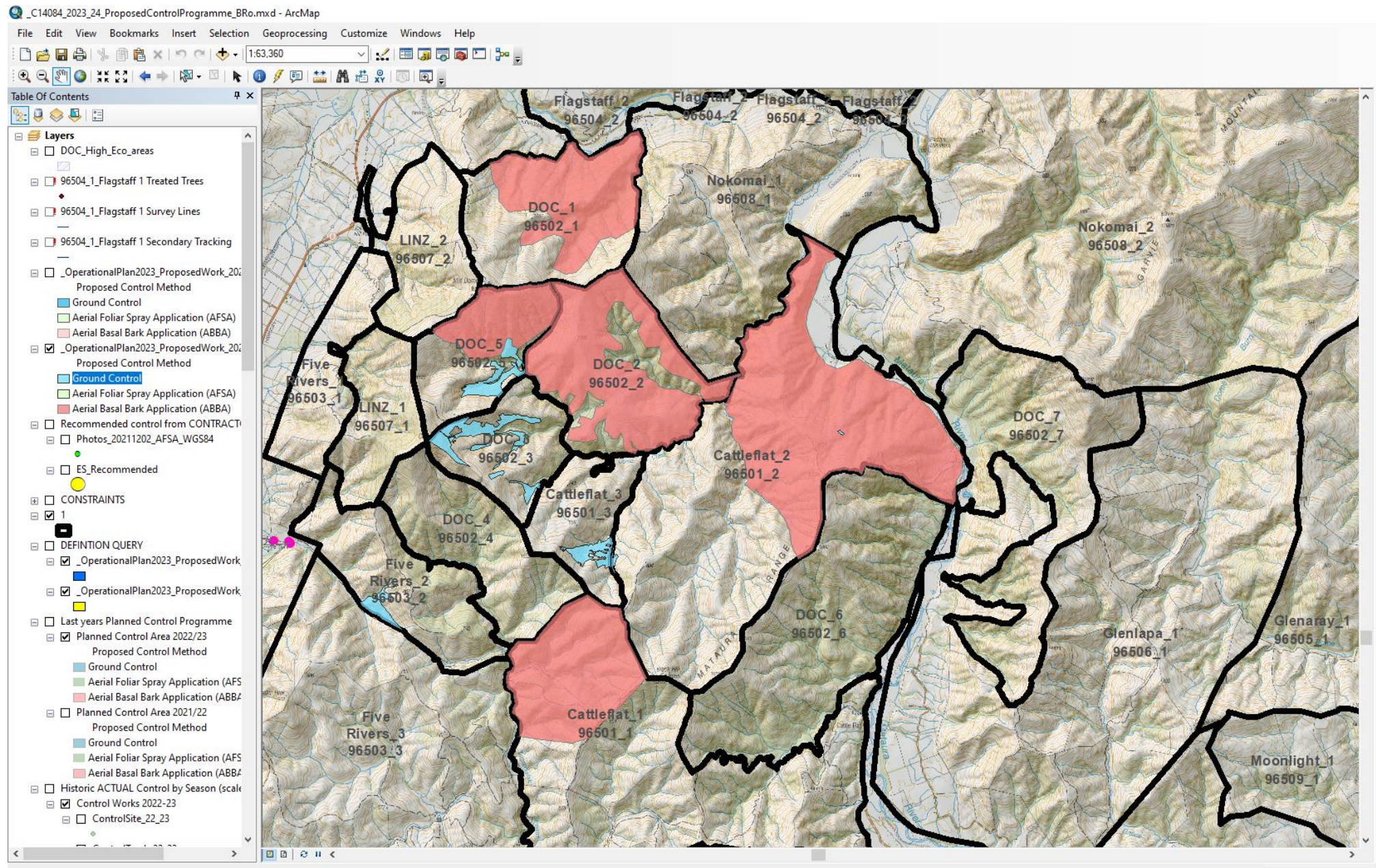
Marcus

Field Visits, Aerial and Ground Based Survey





Marcus

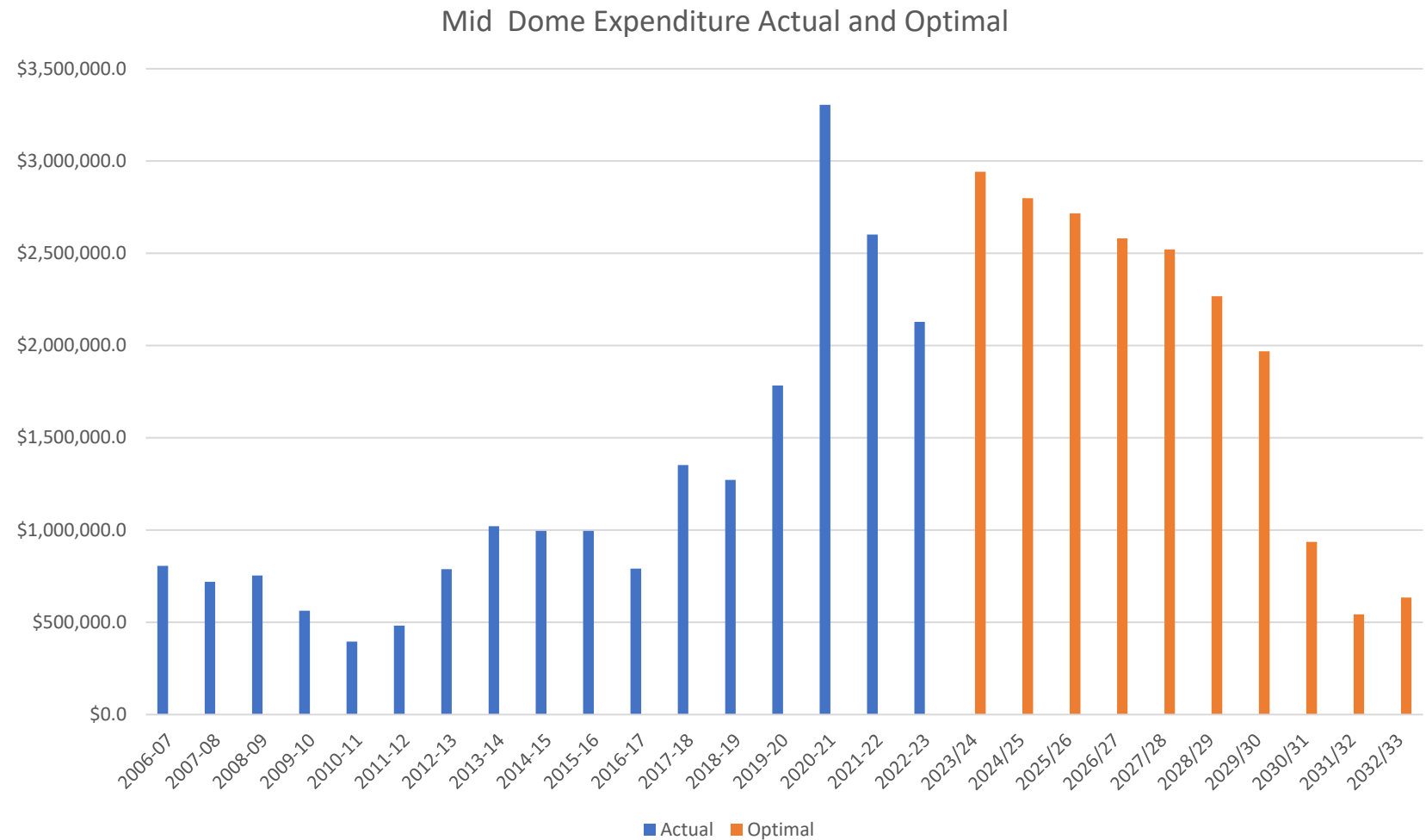


“Funding to Completion Model”

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	X	Y	Z	AA	AB	AC	AD	AE	AF
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3																										
4																										
5																										
6																										
7																										
8	Manually enter																									
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10	Derived																									
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- Divided into control “type” – initial hectares
- Cascades down through though types
- A cost multiplier for not controlling in a given year

What will it take to complete the Mid Dome Programme?



This could done by 2033 and could cost up to \$20M

Model Outcomes: Ideal vs One year of reduced funding

Year	Financial Year	Required Budget
1	2023/24	\$ 2,941,780
2	2024/25	\$ 2,797,733
3	2025/26	\$ 2,715,587
4	2026/27	\$ 2,580,587
5	2027/28	\$ 2,520,587
6	2028/29	\$ 2,265,938
7	2029/30	\$ 1,967,453
8	2030/31	\$ 935,131
9	2031/32	\$ 542,540
10	2032/33	\$ 632,970
		\$ 19,900,305

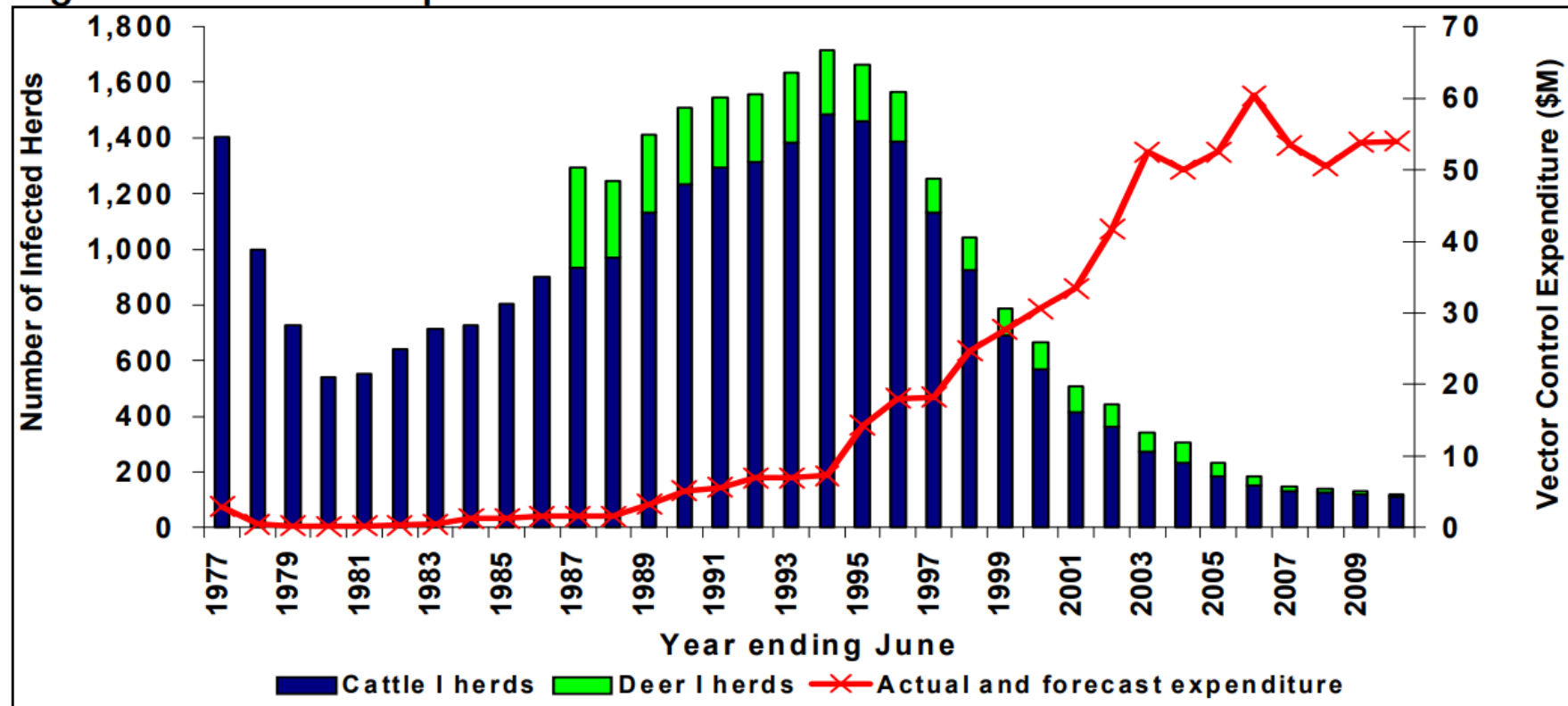
Year	Financial Year	Required Budget
1	2023/24	\$ 891,000
2	2024/25	\$ 2,872,709
3	2025/26	\$ 2,680,587
4	2026/27	\$ 2,685,418
5	2027/28	\$ 2,720,418
6	2028/29	\$ 2,685,418
7	2029/30	\$ 2,685,418
8	2030/31	\$ 2,720,418
9	2031/32	\$ 2,685,418
10	2032/33	\$ 2,685,418
11	2033/34	\$ 2,680,587
12	2034/35	\$ 2,691,293
13	2035/36	\$ 1,308,810
14	2036/37	\$ 296,200
15	2037/38	\$ 490,180
		\$ 32,779,293

If we do not complete the programme....

- Any remaining wilding trees that are coning will rapidly reinfest the heavily controlled areas – approx. 20,000 ha.
- Remaining seed sources at Mid Dome have the potential over time to infest more than 200,000 ha of extremely vulnerable hill and high country land downwind to the east and south – as far as the Clutha River and beyond.
- This will result in major losses in pastoral production, biodiversity and water yield and increased wild fire risk as well as impacting on social and cultural values.
- The sunk investment cost (to date in excess of \$20M) will be lost.

Funding cuts in the late 70's cost the Tb programme over \$1.5B

Figure 2. Relationship between Tb herd infection and vector control



Mid Dome has never been more winnable than now!

- We just need sufficient funding (**\$20M over 10 years**) to complete
 - If not costs to complete escalate at a compounding rate of **30%/ann.**
- The majority \$ must come from Government with co-funding from
 - Regional Councils
 - Public environmental funds
 - Donors/philanthropists
 - Beneficiaries/exacerbators?
- We must work with affected land holders to achieve effective transition of responsibility for maintenance post programme by 2033, i.e., “no coning trees”
- A national surveillance and regulatory regime will be needed post 2033 to protect the gains for the long term.

Wilding pine issues across Southland

It's no longer just the legacy plantings

Legacy planting and wildings

- *Pinus contorta* and *P. mugo*
- Erosion & elevation experiments
- Mid Dome
- Cheviot Faces, Takitimu Mountains
- West Dome, Eyre Mountains
- Mt Bee, Eyre Mountains
- Ashton Valley, Eyre Mountains



Resource Management Act wildings

- Consented and permitted forestry blocks
- Douglas fir the greatest wilding species from these
- No legal obligations for polluter pays
- Spreading onto reserves and private land



Takitimu Mountains

Douglas fir plantation, 1 of 3 known forest issues

Good Neighbour Rules can apply in some places
but most is the neighbor's issue (DOC) to fund

4km boundary-44,000ha of Public Conservation Land
adjoining it



Jolie



Surrounding Takitimu



Redcliff creek, private trust land being restored

Thick band of wildings along forestry boundary and wildings spread throughout regenerating vegetation



West Dome



Forestry land and DOC both affected
Rare ultramafic soils

Jolie



Control line (2020) shows property boundary

QEI reserves



Neighbouring QE2 reserves are now having wildings invade.

QE2 turned one reserve application down as wildings were too big of risk for the land to be managed.



Nevis Road

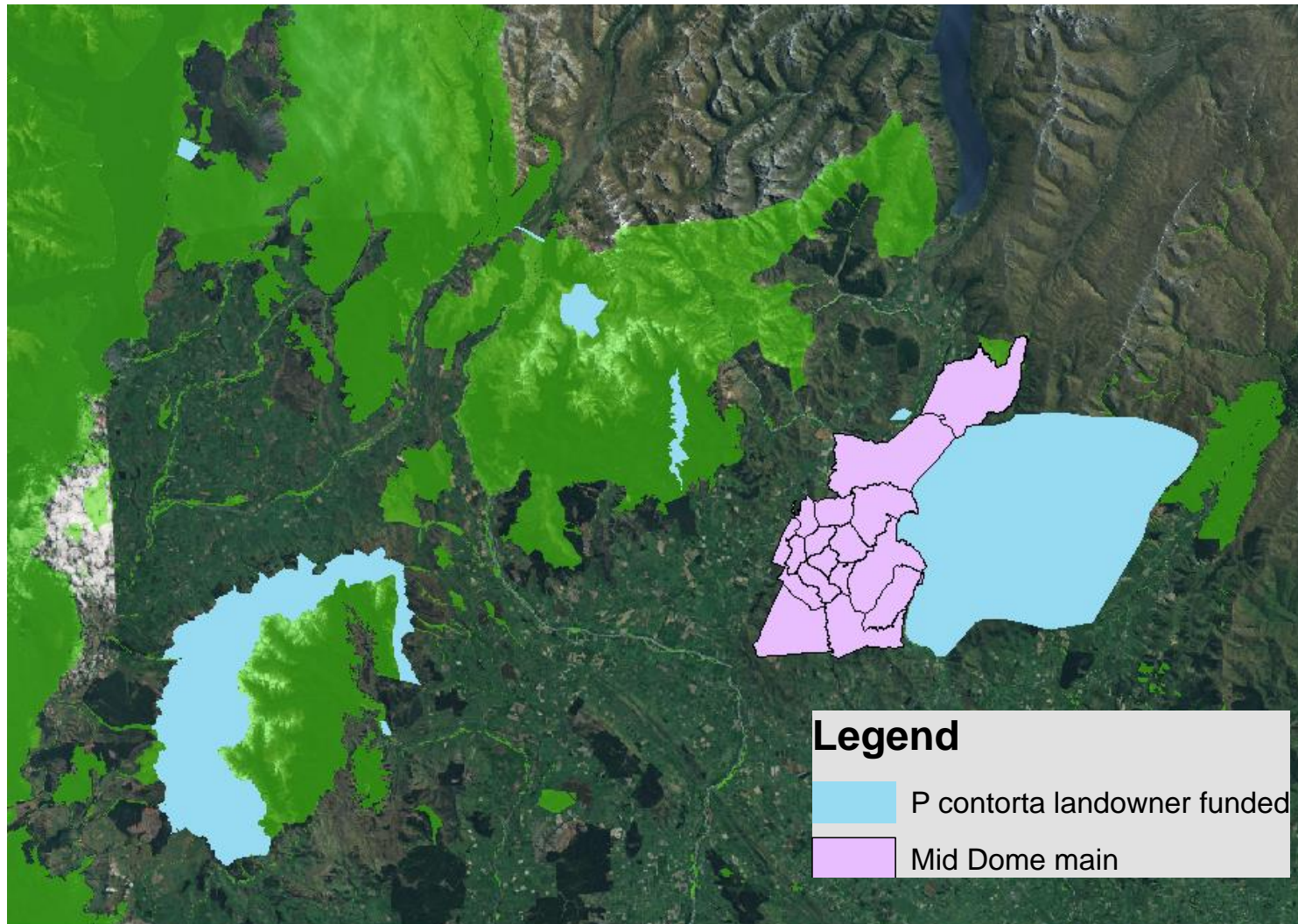


Invading private farmland and DOC land,
receiving landowners responsibility to control

Jolie

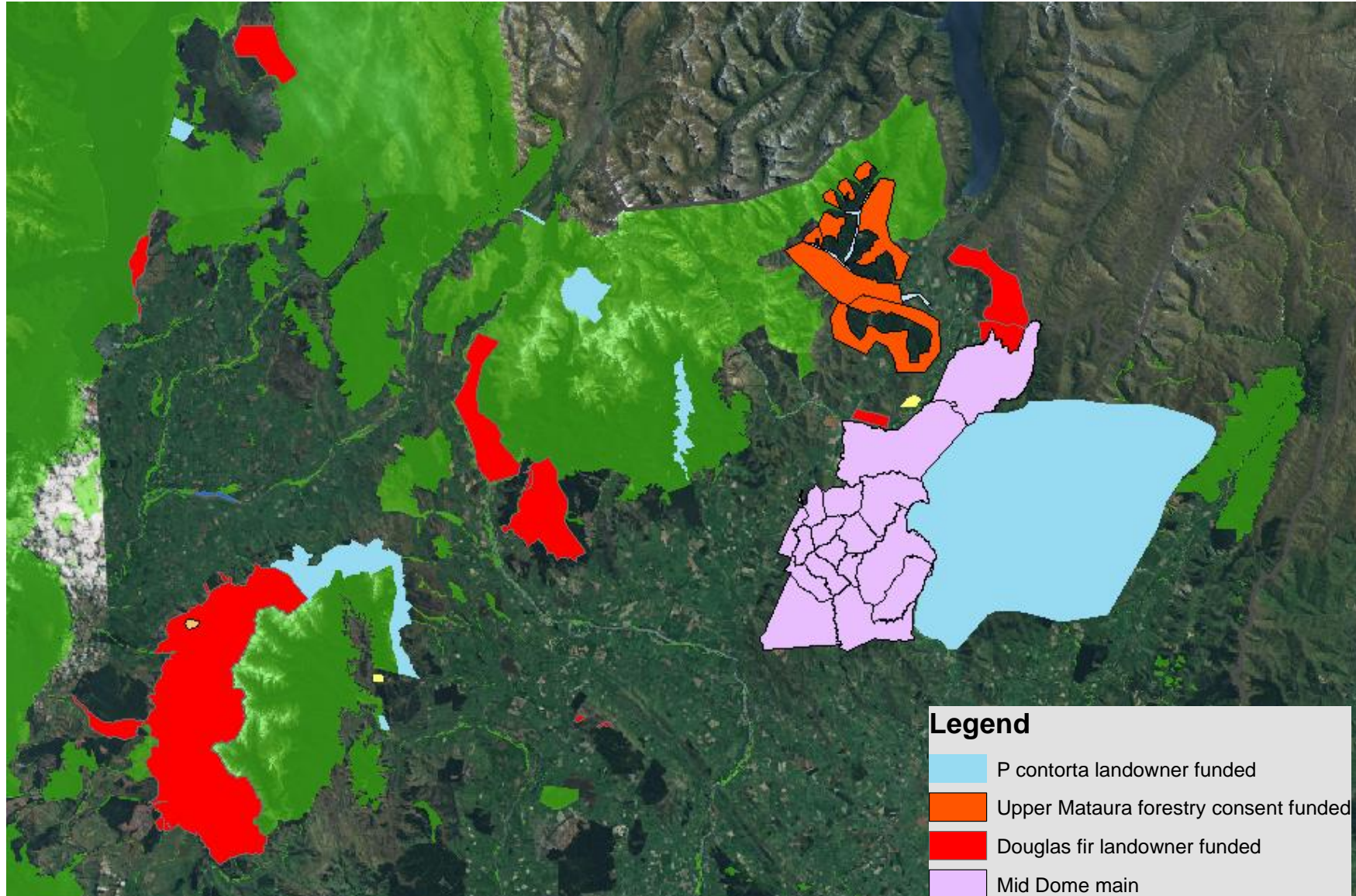


Legacy wilding control areas



Approx
30,000ha,
outside Mid Dome these
areas are almost zero density

Current wilding

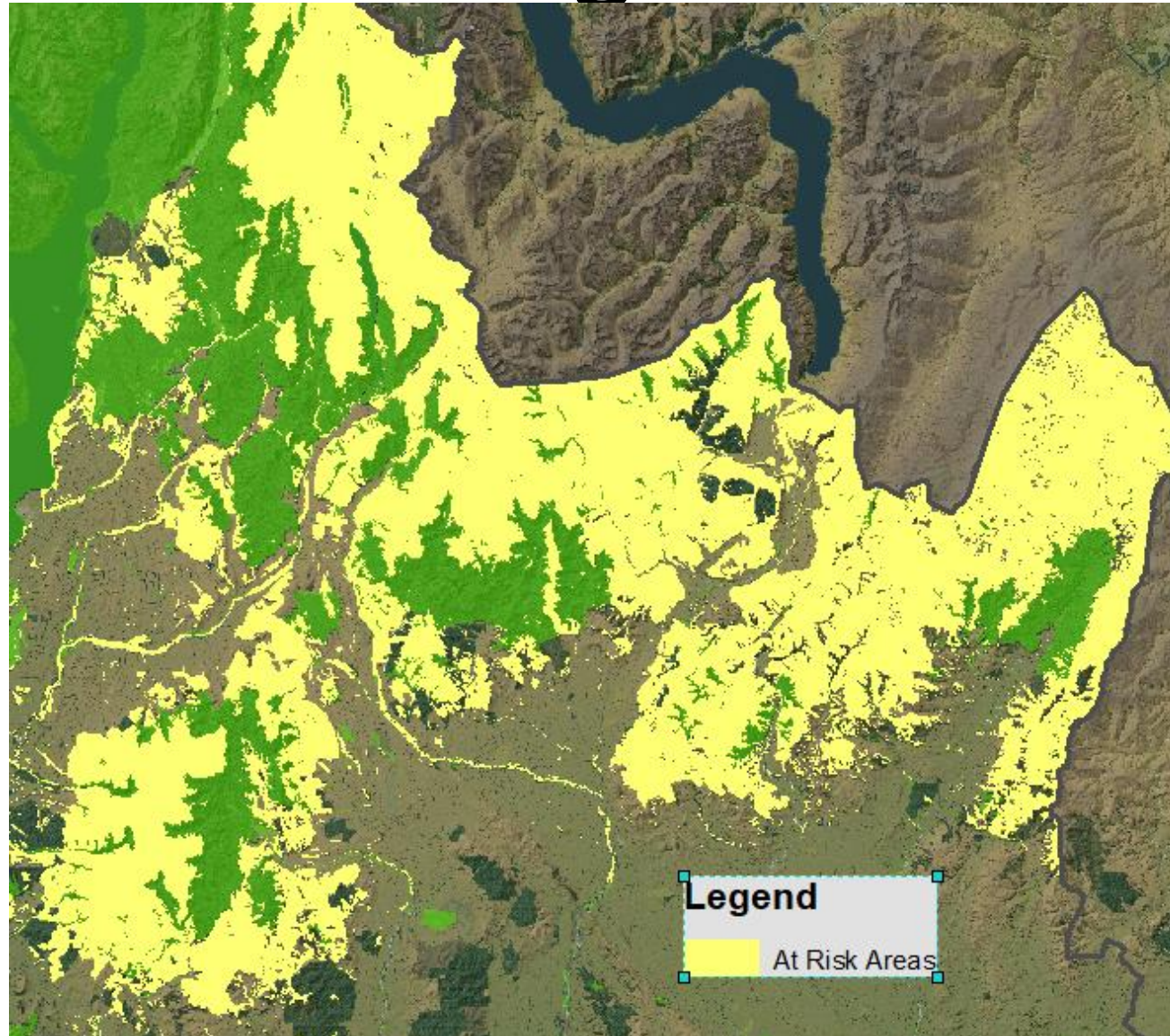


Approx
52,000ha
and
growing

Current situation

- Regional Pest Management Plan – Owner or Occupier responsibility to control wildings on their land.
- Exemption for *P. contorta* and *P. mugo* in the Mid Dome area....but not for other wilding species.
- How do land owners fund this though?

Future wilding area?



Seeing wildings outside this area too – White hill, Tauringatua, Venlaw

Future

- Need policy changes
- Forestry industry
- New sites still being planted, adding to future risk
- **Right policy, right tree, right place, right management.**
- SDC District plan being reviewed at the moment
- NES-PF reviewed but minimal help for this current issue
- So what actions can you make after this meeting today to stop the wilding invasion? Grazing, control, funding, policy changes, change in plantation species?

What does the Mid Dome Trust need?

- Continued **proactive support from its partners**, i.e., MPI, DOC, LINZ, Environment Southland and local land holders.
- Political pressure put on Central Government to provide the funding necessary to complete the national Wilding Conifer Control Programme.
 - **\$20M over the next 10 years.**
- Additional funding from each partner to lessen the impacts of severely reduced national programme funding.
 - ES's contribution has been static at \$50kpa since 2006.
 - Unexpected decrease in DOCs annual funding from \$70K-\$50K
 - LINZ's contribution has declined \$120K down to \$75K pa.
 - Consider land holder contributions (20%) as in some other regions.
- Improve the regulatory tools that are necessary and apply them to effectively hand back responsibility to land owners for wilding tree compliance under the RPMP.
 - Fit for purpose biosecurity rules to protect compliant land owners/occupiers
 - More robust resource management tools for conifer planting to avoid future wilding spread problems

